

Date: Wednesday, 12/14/2005 3:56:51 PM  
 User: Kim Johnston

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : BOLT
Job Number : 25224	
Estimate Number : 10372	
P.O. Number : N/A	Part Number : D312121
This Issue : 12/14/2005 S.O. No. : N/A	Drawing Number : D3121 REV C2
Prsht Rev. : NC	Project Number : N/A
First Issue : N/A Type : MACHINED PARTS	Drawing Revision : C2
Previous Run : 24475	Material : N/A
Written By : <u>See comment below</u>	Due Date : 12/21/2005 Qty: 50 Um: Each
Checked & Approved By : <u>See comment below</u>	
Comment : Est. A04.02.09 New issue KJ/DS	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	M303H0500	303 HEX BAR
-----	-----------	-------------



Comment: Qty.: 0.0417 f(s)/Unit Total : 2.0850 f(s)

303 HEX BAR

Material: AISI 303 SS 1/2" Hex Bar

(M303H0.500)

Batch: M16140 22 inches

M8 05/12/20 51

2.0	HARDINGE	HARDINGE CNC LATHE SMALL
-----	----------	--------------------------



Comment: HARDINGE CNC LATHE SMALL

1-Turn D3121-21

2-Identify as D3121-21

3-Deburr break all sharp edges 0.005" to 0.010"

M8 05/12/20 54

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

M8 05/12/20 54

4.0	QC8	SECOND CHECK
-----	-----	--------------



Comment: SECOND CHECK

M8 05/12/21 51

5.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 401

6 05/12/21 51

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: DP Date: 06/01/23  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 12/14/2005 3:56:52 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BOLT

Job Number: 25224

Part Number: D312121

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL  
Inspection Level 21

*MS* 05/12/22 51

Job Completion



*u* 05.12.22  
*D* 06/01/03

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

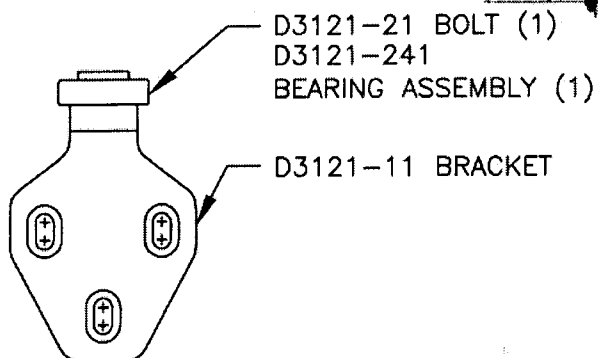
NOTE: Date & initial all entries





DESIGN #	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
CHECKED #	APPROVED #	DRAWING NO. D3121		REV. C SHEET 1 OF 10	
DATE 04.02.17		TITLE BRACKET ASSEMBLY		SCALE 1:2	
A	02.04.15	NEW ISSUE			
B	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146			
C	04.02.17	ADD CLEARANCE; USE -241 BEARING			
C1	CP 04.03.26	3.97 WAS 4.00; 6.11 WAS 6.14			
C2	# 04.04.26	0.230 WAS 0.238			

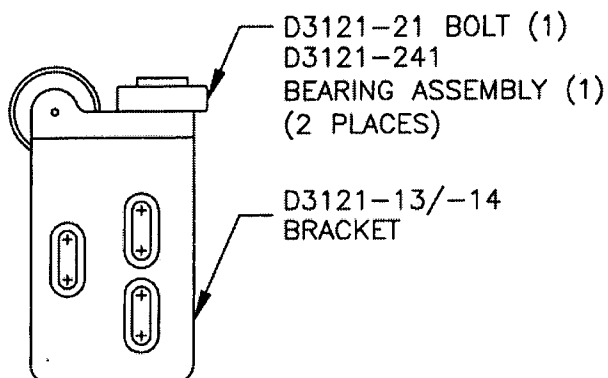
RELEASED  
04.03.01



D3121-21 BOLT (1)  
D3121-241  
BEARING ASSEMBLY (1)

D3121-11 BRACKET

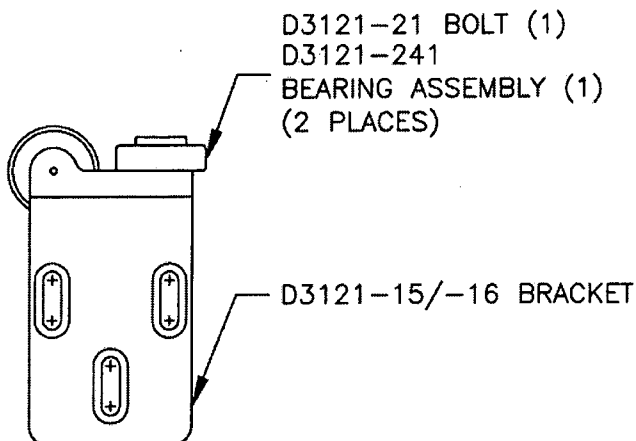
**D3121-041 BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-33)



D3121-21 BOLT (1)  
D3121-241  
BEARING ASSEMBLY (1)  
(2 PLACES)

D3121-13/-14  
BRACKET

**D3121-043 (SHOWN) / D3121-044 (OPPOSITE)  
BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-37/-38)



D3121-21 BOLT (1)  
D3121-241  
BEARING ASSEMBLY (1)  
(2 PLACES)

D3121-15/-16 BRACKET

**D3121-045 (SHOWN) / D3121-046 (OPPOSITE)  
BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-35/-36)

SHOT COPY

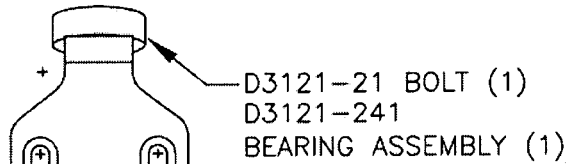
25224

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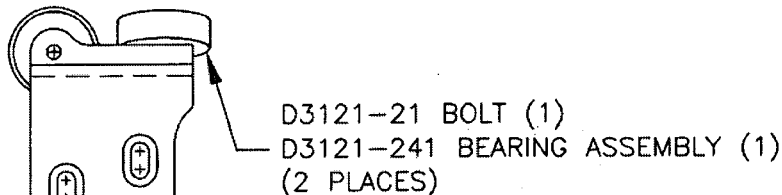


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DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:2



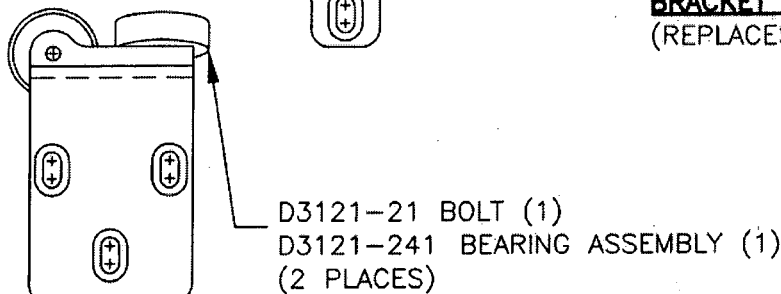
D3121-111 BRACKET

**D3121-141 BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23001-01)



D3121-113/-114 BRACKET

**D3121-143 (SHOWN) / D3121-144 (OPPOSITE) BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-03/-04)



D3121-115/-116 BRACKET

**D3121-145 (SHOWN) / D3121-146 (OPPOSITE) BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-05/-06)

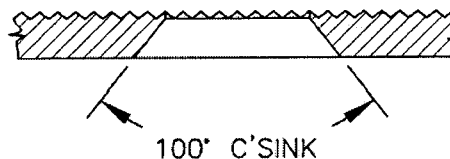
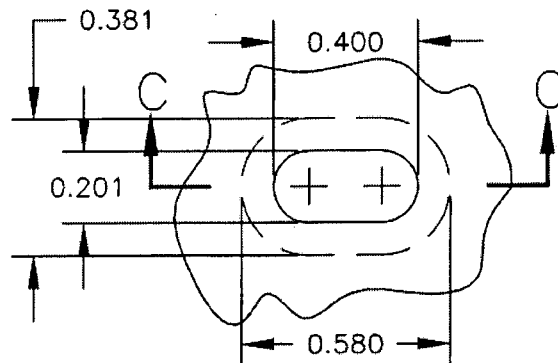
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DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:1

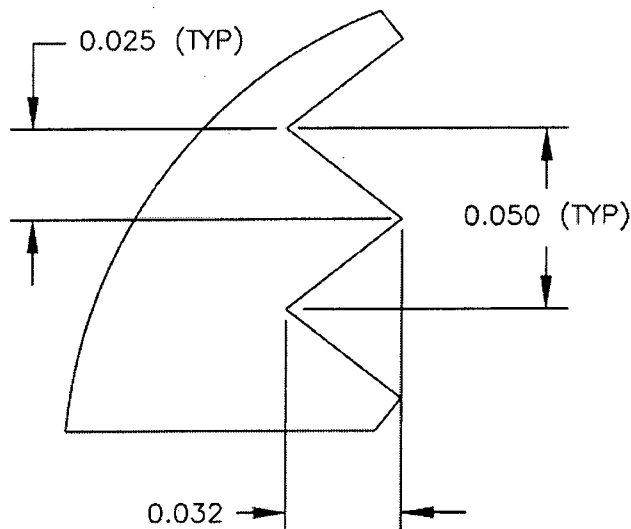
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04.03.01 #

**DETAIL A:**  
**SLOT DETAIL**  
SCALE 2:1  
VIEW ROTATED



**SECTION**  
**C-C**

**DETAIL B:**  
**RIDGE DETAIL**  
PARTIAL SECTION  
SCALE 1:20



COPY  
COMMENT  
NO. NOTICE  
ORDER  
NO. 25224

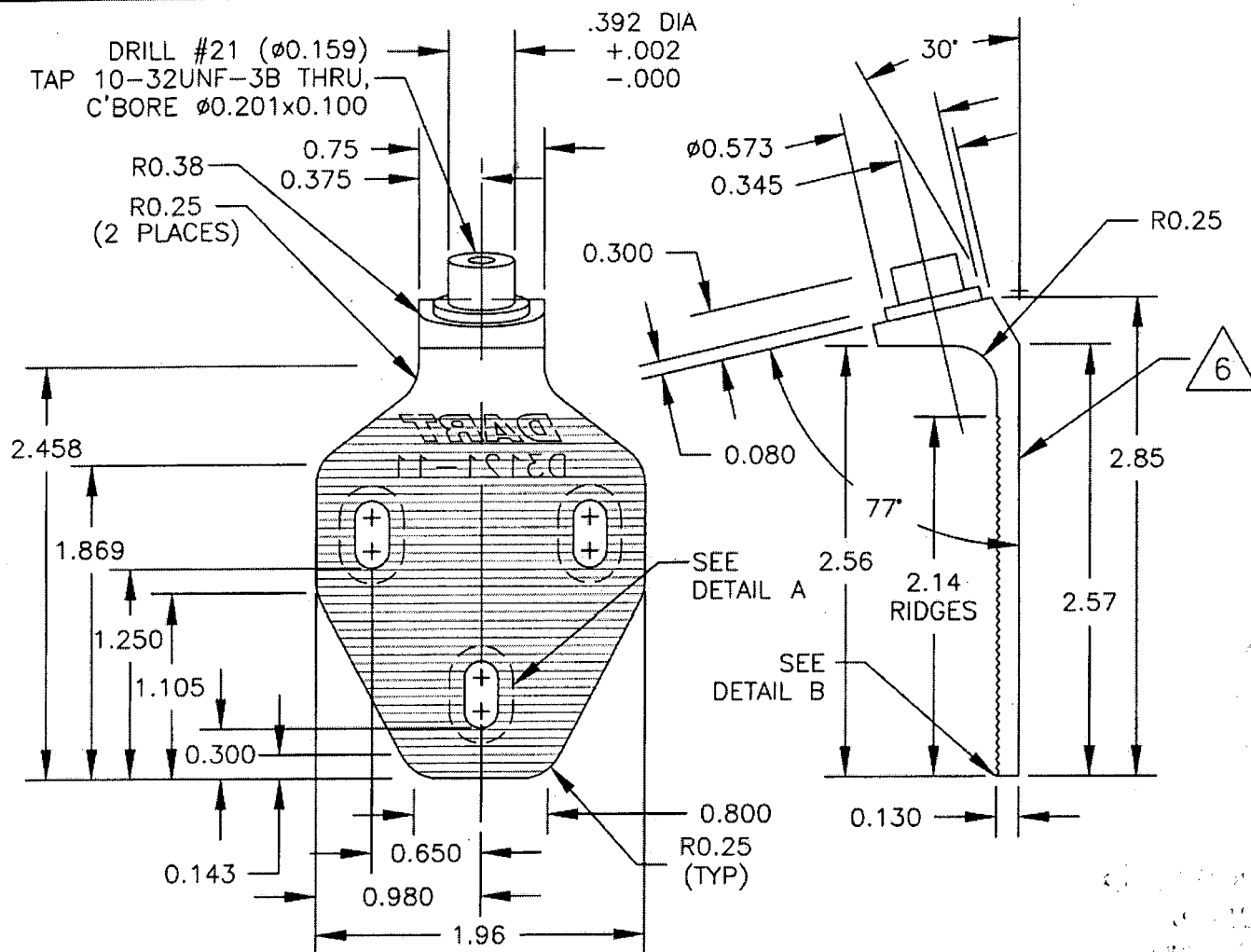
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DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:1



### D3121-11 BRACKET

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

COPY  
FOR  
INFORMATION  
NOTICE  
WORK ORDER  
NO. 25224

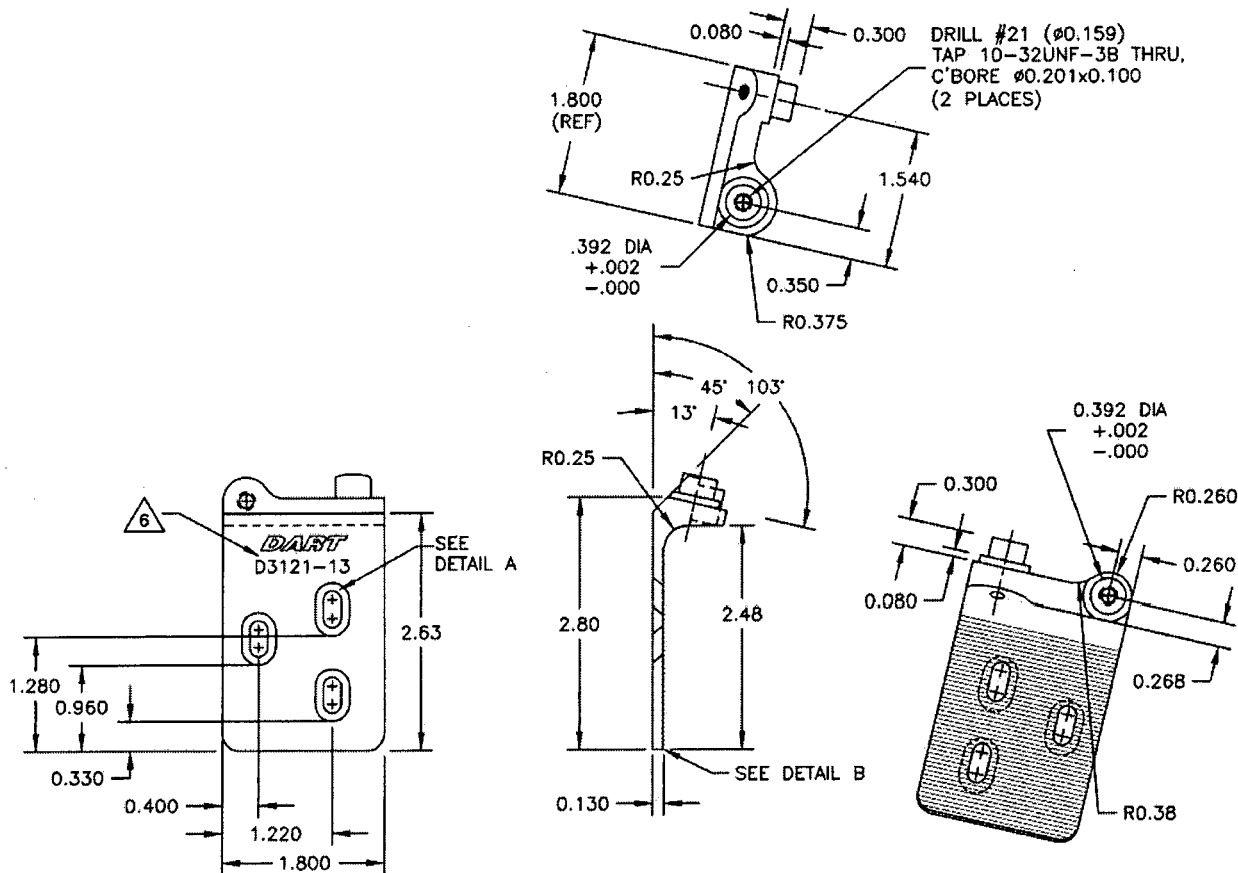
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DATE 04.02.18		TITLE BRACKET ASSEMBLY	SCALE 1:2



**D3121-13 BRACKET (SHOWN)**  
**D3121-14 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE STRENGTH = 150 ksi  
MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

WORK ORDER  
NO. 25224

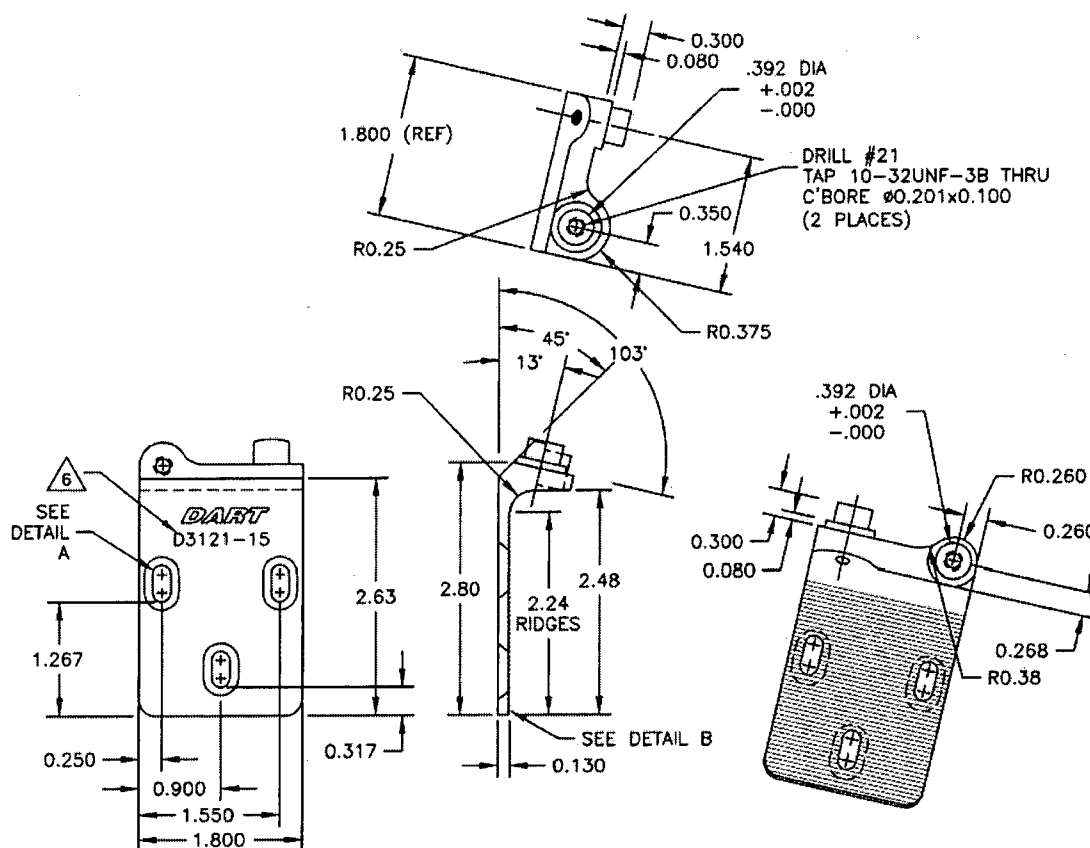
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DATE 04.02.18		TITLE BRACKET ASSEMBLY	SCALE 1:2



#### D3121-15 BRACKET (SHOWN)

#### D3121-16 BRACKET (OPPOSITE)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

COPY  
COMMENT  
NOTICE

ORDER  
NO. 25224

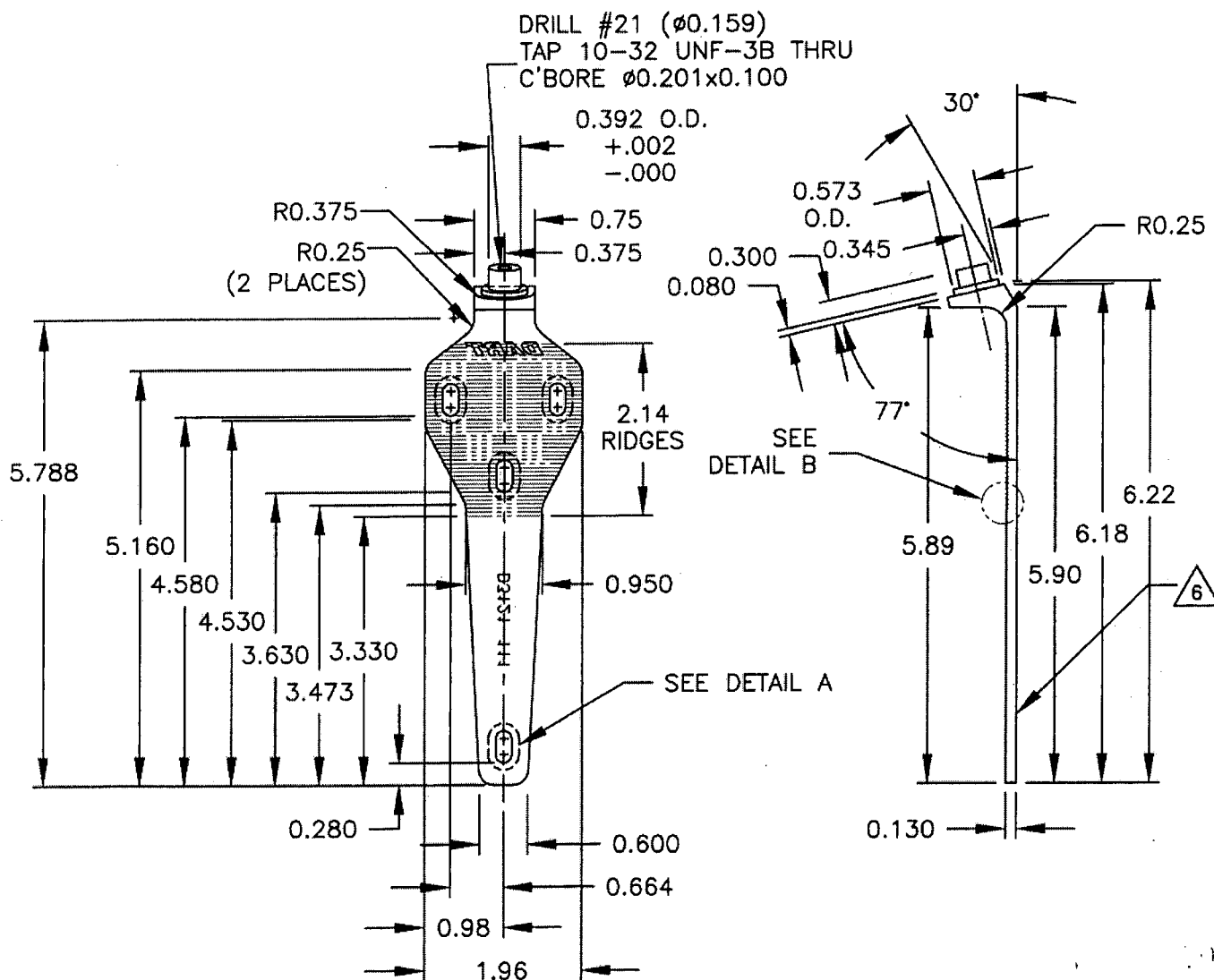
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DATE 04.02.18		TITLE BRACKET ASSEMBLY	SCALE 1:2



#### D3121-111 BRACKET

- 1) REPLACES PREMIER P/N B32-23001-11
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

25224

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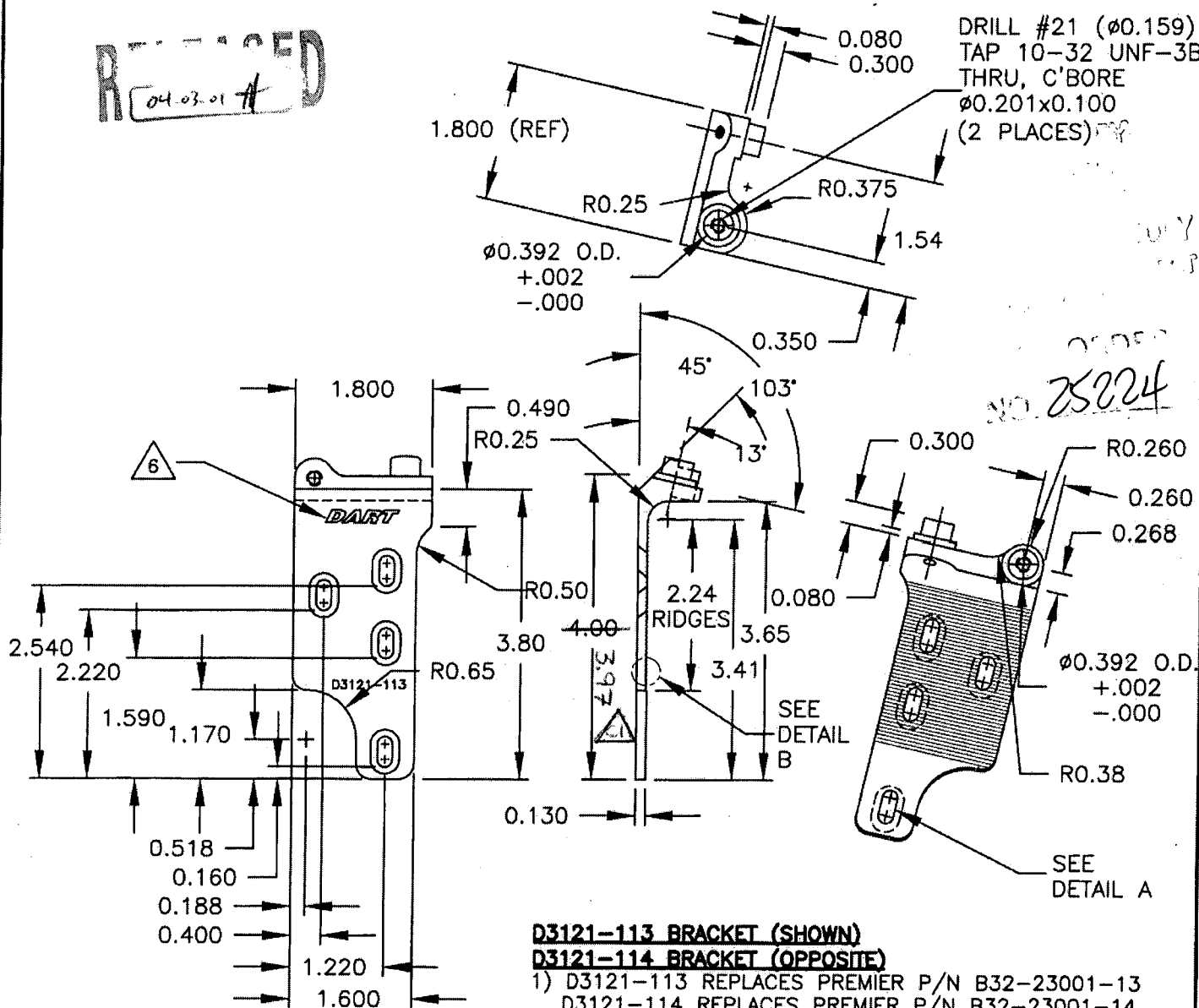
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CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3121	REV. C SHEET 8 OF 10
DATE 04.02.18		TITLE BRACKET ASSEMBLY	SCALE 1:2

**REMOVED**  
04.03.01 *[Signature]*

**D3121-113 BRACKET (SHOWN)****D3121-114 BRACKET (OPPOSITE)**

- 1) D3121-113 REPLACES PREMIER P/N B32-23001-13  
D3121-114 REPLACES PREMIER P/N B32-23001-14

- 2) MATERIAL: 17-4 SS PER AMS 5604/5643

(REF DART SPEC. M17-4-B)

MIN ULTIMATE TENSILE STRENGTH = 150 ksi

MIN YIELD TENSILE STRENGTH = 100 ksi

- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 4) ALL DIMENSIONS ARE IN INCHES

- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN

- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

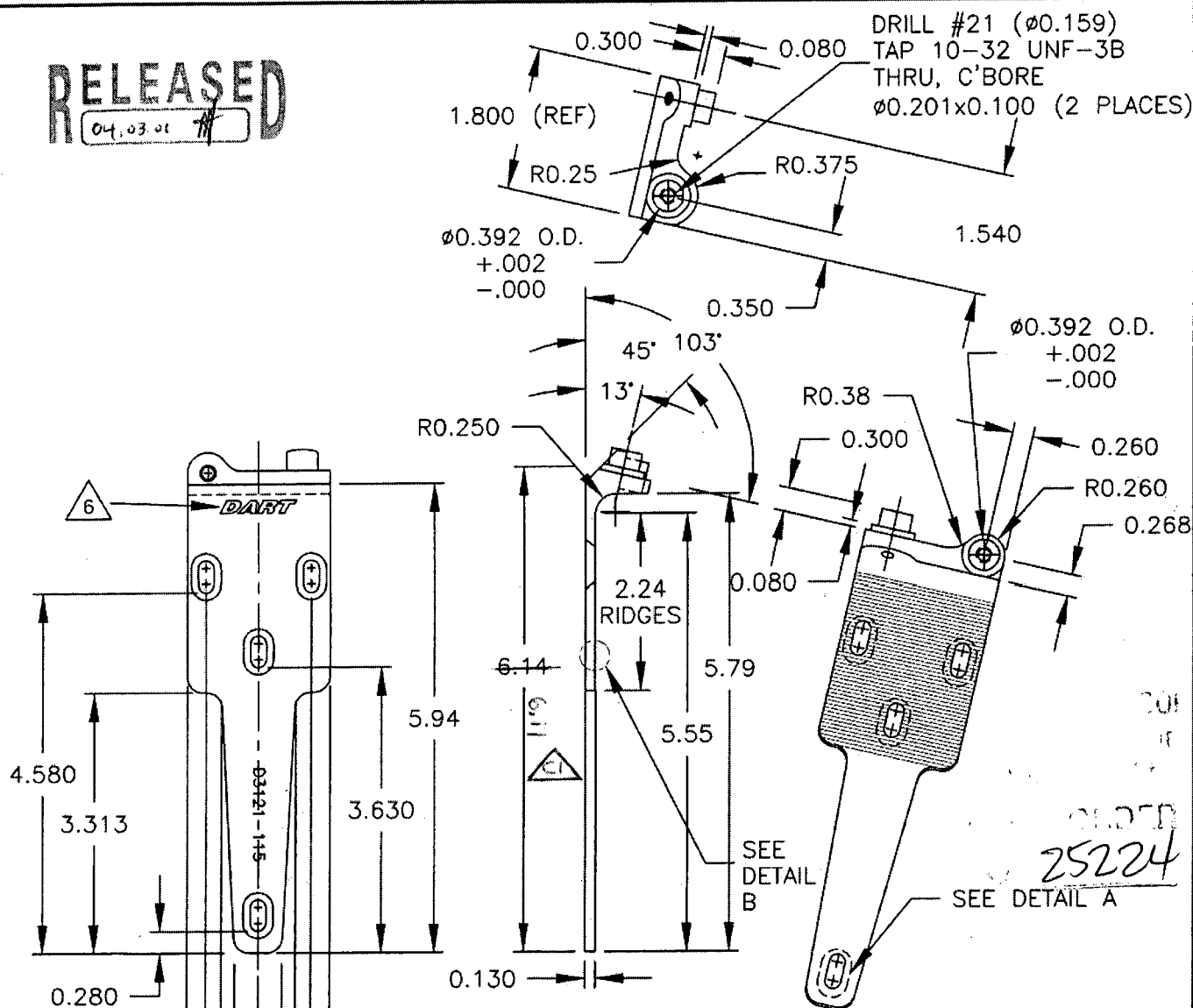
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DATE 04.02.18	TITLE BRACKET ASSEMBLY		SCALE 1:2

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**D3121-115 BRACKET (SHOWN)**

**D3121-116 BRACKET (OPPOSITE)**

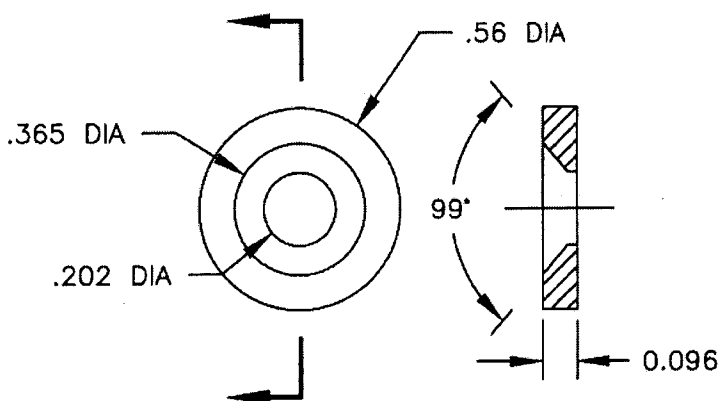
- 1) D3121-115 REPLACES PREMIER P/N B32-23001-15  
D3121-116 REPLACES PREMIER P/N B32-23001-16
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643  
(REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE STRENGTH = 150 ksi  
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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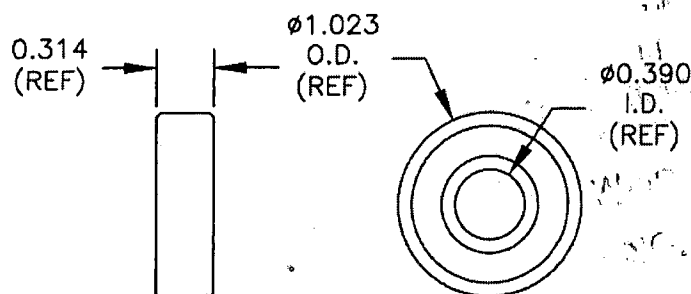


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CHECKED	APPROVED	DRAWING NO. D3121	REV. C SHEET 10 OF 10
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:1



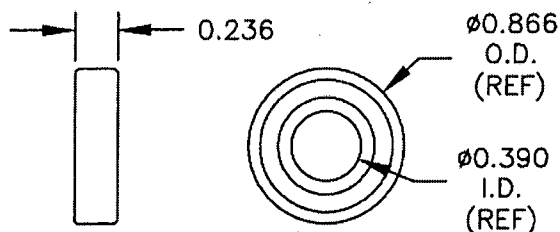
#### D3121-17 WASHER (SCALE 2:1)

- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



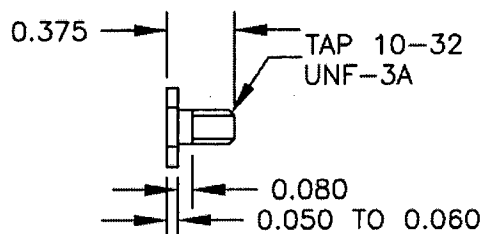
#### D3121-19 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES



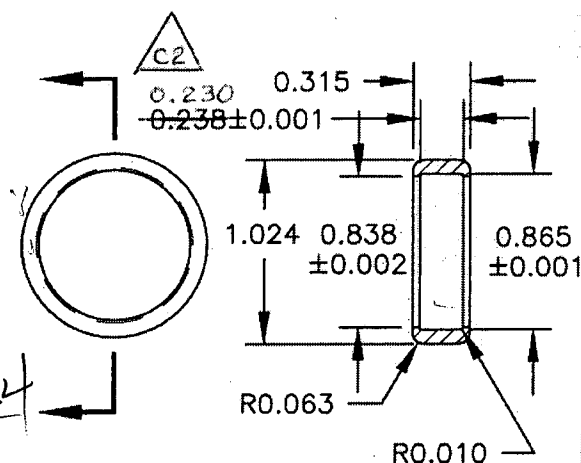
#### D3121-23 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z OR KML P/N 6900-ZZ
- 2) ALL DIMENSIONS ARE IN INCHES



#### D3121-21 BOLT (SCALE 1:1)

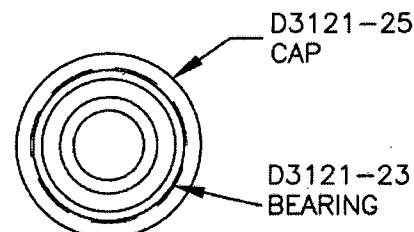
- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



#### D3121-25 CAP (SCALE 1:1)

- 1) MATERIAL: DELRIN ROD, 1.25 (REF DART SPEC. M-DELIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

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#### D3121-241 BEARING ASSEMBLY (SCALE 1:1)

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